65393

The University of Michigan
CHILD PASSENGER PROTECTION RESEARCH PROGRAM
2901 Baxter Road • Ann Arbor, MI 48109-2150
Tel (734) 764-4722 • Fax (734) 647-3330

Medical School
Department of Surgery
Section of Pediatric Surgery

Docket No. NHTSA-99-5100 NHTSA-98-4868-8

October 12, 1999

Docket Management, Room PL-401
400 Seventh Street, SW
Washington, DC 20590

In response to your proposals of August 13 on Seat Belt Positioners, I have the following comments and suggestions.

Issue 1: Safety Need

The issue of unregulated devices to reposition shoulder belts on children and other short occupants poses a potential safety problem but not one that has been documented in the field. Perhaps there have been few crashes *severe* enough to test the potential degradation to lap/shoulder belts, so cases do not get into the data files. Perhaps those who purchase such devices are not actually motivated to used them. Perhaps the children in question reject them when tried. Whatever the reason, the fact that a class of restraint-related products exists and is being sold with the impression it is regulated demands that NHTSA apply some sort of regulatory control, to protect the public from possibly unscrupulous manufacturers.

Issue 2: Warning Label

On the near term, a warning label may suffice, but the use of an age limit is not appropriate. According to NHTSA's own research (DOT HS 808 248), age is not a good predictor of when a lap/shoulder belt fits a child without a booster. In addition to needing a seated height of29 in ('74 cm), the child's knees should bend at the front edge of the seat cushion and the feet should touch the floor. Lacking the latter, the child is very likely to slouch under the lap belt and submarine in a crash. A shoulder belt positioner does nothing to improve or ensure lap belt fit and may make it worse.

To use the height of the 6-year dummy as the lower limit would therefore be ineffective in ensuring good fit of the lap portion of the belt and would ignore the agency's own recommendations. I would therefore suggest requiring a warning label such as the following:

> Do not use this device with occupants whose feet cannot touch the floor of the vehicle when seated upright. Ensure that the shoulder belt rests approximately halfway between the neck and arm, and that the lap belt is across the top of the thighs and not over the stomach

Issues 3: Regulation by Standard 213

I agree that the limitations of the FMVSS 213 test procedures and dummies, as well as the idealized nature of the standard test bench and three-point belt configuration, are not suited to evaluating a device that alters belt geometry and performance in the field.

Issue 4: Other Performance Requirements

On the long term, all belt positioning devices, such as boosters, should be evaluated in a new standard that emphasizes belt placement rather than the acceleration performance of the standard static lap/shoulder belt assembly. Currently, one can achieve better chest acceleration results by pushing the shoulder belt off onto the dummy's arm, compared to putting it across the chest, while still not exceeding the head excursion limit. In addition, there is currently *no* requirement that boosters have lap belt guides to keep that belt on the thighs. Both of these issues need to be addressed, and new compliance criteria need to be developed for all belt-positioning devices,

Yours truly,

Kathleen Weber

Kathleen 'Weber
Project Director

copy sent by FAX: 202-493-2251